

AMENDMENTS TO THE CLAIMS

Please cancel claim 37, amend claims 1, 19 and 56 and add new claims 58 and 59 as set forth in the following listing of claims, which will replace all prior versions, and listings, of claims in the present application.

Listing of Claims

1. (Currently Amended) A body fluid cartridge exchange platform device, comprising:
a hollow tubular platform housing having a generally oval cross-section, a first end with a first opening and a second end with a second opening, wherein said first opening and said second opening facilitate insertion of a tubular cartridge insert that sealably engages inside the platform housing, and said first opening and said second opening facilitate bi-directional installation through either of said first opening and said second opening and bi-directional removal of said tubular cartridge insert through either of said first opening and said second opening regardless of which opening said tubular cartridge insert was installed through.
2. (Original) The device of claim 1, further comprising a small diameter first hollow leg member having an internal diameter, the leg member suitable for extending from the platform housing through skin of a patient for facilitating body fluid communication between an organ and at least a portion of the platform housing and tubular cartridge insert.
3. (Original) The device of claim 2, wherein the first hollow leg member supports the platform housing removed from the skin of the patient.
4. (Original) The device of claim 2, wherein the tubular cartridge insert provides a substantially arcuate flow path through the platform housing.
5. (Original) The device of claim 2 further comprising a second hollow leg member extending from the platform housing and penetrating through the skin of the patient and completing a fluid communication flow path extending between the first hollow leg member and the second hollow leg member through the tubular cartridge insert.

6. (Original) The device of claim 5, wherein the first and second hollow leg members include multiple internal lumens that communicate with the platform housing.

7. (Previously Presented) The device of claim 6, wherein the multiple internal lumens are adapted to communicate with multiple organs.

8. (Previously Presented) The device of claim 7, further comprising an external communicating passageway coupled to one of the openings of the platform housing and adapted to provide communication between the organ and an external destination.

9. (Previously Presented) The device of claim 8, wherein the external destination is adapted to provide a mechanism of drug delivery to supply one or more drugs to the organ.

10. (Original) The device of claim 5, wherein the first and second hollow leg members have a diameter of less than about 10 mm.

11. (Original) The device of claim 5, wherein the first and second hollow leg members each further comprise a microporous cell penetrable cuff disposed at a sub-dermal end of the first and second hollow leg members when implanted in a patient.

12. (Original) The device of claim 5, further comprising a bioactive coating disposed on at least a portion of the flow path between the first hollow leg member and the second hollow leg member through the tubular cartridge insert.

13. (Original) The device of claim 2, wherein the tubular cartridge insert provides a flow path through the platform housing and wherein the flow path has a diameter varying from a diameter relatively greater than an internal diameter of the first hollow leg member to substantially a same diameter as the internal diameter of the first hollow leg member.

14. (Original) The device of claim 2, wherein multiple tubular cartridge inserts are sealably engaged within the platform housing in alignment and communicate with the leg member.

15. (Original) The device of claim 1, wherein the tubular cartridge insert includes a locking mechanism for locking the tubular cartridge insert into a desired alignment within the platform housing.

16. (Original) The device of claim 15, wherein the locking mechanism is a flexible tab that extends from the tubular cartridge insert.

17. (Original) The device of claim 16, wherein the platform housing includes a receiver for receiving the flexible tab to hold the tubular cartridge insert in a desired alignment.

18. (Original) The device of claim 1, further comprising at least one marking disposed on at least one of the tubular cartridge insert and the platform housing that is suitable as an insertion direction indicator for the tubular cartridge insert.

19. (Currently Amended) An access device for providing access to internal organs, comprising:
a housing having a generally oval cross-section, a first opening at a first end and a second opening at a second end; and
a cartridge suitable for sealingly engaging an interior of the housing, the cartridge being insertable through either of the first opening and the second opening and removable through either of the first and second openings regardless of which opening the cartridge was inserted through.

20. (Original) The device according to claim 19, further comprising a first port and a second port disposed through a wall of the housing.

21. (Original) The device according to claim 20, further comprising a first leg having at least a first passage in communication with the first port and a second leg having at least a second passage in communication with the second port.

22. (Original) The device according to claim 21, wherein the first leg extends in a staggered and divergent manner from the second extending leg along the wall of the housing.

23. (Original) The device according to claim 21, further comprising a channel disposed within the cartridge.

24. (Original) The device according to claim 23, wherein the channel completes a flow path between the first passage and the second passage through the first and second ports.

25. (Original) The device according to claim 24, further comprising at least one external passage in communication with the channel of the cartridge, the external passage being suitable for at least one of introducing and removing a substance.

26. (Original) The device according to claim 24, further comprising a first channel port and a second channel port at opposite ends of the channel within the cartridge.

27. (Original) The device according to claim 26, wherein a distance between the first channel port and a first end of the cartridge is greater than a diameter of the first channel port.

28. (Original) The device according to claim 27, wherein a distance between the second channel port and a second end of the cartridge is greater than a diameter of the second channel port.

29. (Original) The device according to claim 24, further comprising a bioactive coating disposed on at least a portion of the flow path.

30. (Original) The device according to claim 21, wherein the first and second legs penetrate skin of a patient.

31. (Original) The device according to claim 21, wherein the first and second legs support the housing distally from a surface of skin of a patient.

32. (Original) The device according to claim 21, wherein the first and second legs are minimally invasive when implanted in a patient.

33. (Original) The device according to claim 21, wherein the first and second legs each have an outer diameter of less than about 10 mm.

34. (Original) The device according to claim 21, wherein the first and second legs further comprise a microporous cell penetrable cuff for sub-dermally anchoring the first and second legs below a skin surface of a patient.

35. (Previously Presented) The device according to claim 21, wherein the first passage of the first leg and the second passage of the second leg are configured to be placed in fluid communication with the organs.

36. (Original) The device according to claim 19, wherein the housing is generally tubular.

37. (Canceled)

38. (Original) The device according to claim 19, further comprising a locking mechanism suitable for fastening the cartridge in place within the housing.

39. (Original) The device according to claim 19, wherein the cartridge is suitable for connection with an external drug source for supplying at least one drug to the internal organs.

40. (Original) The device of claim 19, further comprising at least one marking disposed on at least one of the cartridge and the housing that is suitable as an insertion direction indicator for the cartridge.

Claims 41-55 (Canceled)

56. (Currently Amended) A body fluid cartridge exchange platform device, comprising:

a hollow tubular platform housing having a generally oval cross-section, a first end with a first opening and a second end with a second opening, wherein said first opening and said second opening facilitate insertion of a tubular cartridge insert that sealably engages inside the platform housing, and said first opening and said second opening facilitating bi-directional

installation through either of said first opening and said second opening and bi-directional removal of said tubular cartridge insert through either of said first opening and said second opening regardless of which opening the tubular cartridge insert was installed through; and
a cartridge insert tool for executing a bi-directional cartridge insert installation and removal.

57. (Previously Presented) The device of claim 56, wherein the cartridge insert tool further comprises at least one marking disposed on at least the cartridge insert tool and the housing that is suitable as an insertion direction indicator for the tubular cartridge insert.

58. (New) An access device for providing access to internal organs, comprising:

a housing comprising having a first opening at a first end, a second opening at a second end, a first port disposed through a wall of the housing, a second port disposed through a wall of the housing, a first leg having at least a first passage in communication with the first port and a second leg having at least a second passage in communication with the second port, wherein the first leg extends in a staggered and divergent manner from the second extending leg along the wall of the housing; and

a cartridge suitable for sealingly engaging an interior of the housing, the cartridge being insertable through either of the first opening and the second opening and removable through either of the first and second openings regardless of which opening the cartridge was inserted through.

59. (New) An access device for providing access to internal organs, comprising:

a housing having a first opening at a first end, a second opening at a second end a first leg having at least a first passage in communication with the first port and a second leg having at least a second passage in communication with the second port;

a cartridge suitable for sealingly engaging an interior of the housing, the cartridge being insertable through either of the first opening and the second opening and removable through either of the first and second openings regardless of which opening the cartridge was inserted through, and

a channel disposed within the cartridge that completes a flow path between the first passage and the second passage through the first and second ports and forming a first channel port and a second channel port at opposite ends of the channel within the cartridge, wherein a distance between the first channel port and a first end of the cartridge is greater than a diameter of the first channel port.